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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,698	01/17/2002	Akinari Todoroki	111687	3599

25944 7590 05/27/2005

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EXAMINER

NGO, CHUONG D

ART UNIT

PAPER NUMBER

2193

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,698

Applicant(s)

TODOROKI ET AL.

Examiner

Chuong D. Ngo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 6-8 and 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-13 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's election with traverse of Species I including 1-5 and 9-13 in the reply filed on 12/23/04 is acknowledged. The traversal is on the ground(s) that the Office action improperly equates claims with species, and the search and examination of the entire application could be made with serious burden. This is not found persuasive because the Office action clearly equates the claims with species except for an obvious typo error that Species I should include claims 1-5 and 9-13 rather than 1-4 and 9-13. The mistake would be easily recognized since claim 5 is dependent of claim 4. Further it would be a clear burden for examiner to perform search and examination for the entire application because each species contains different features that the search for one species is not required for the other. Therefore, the requirement is still deemed proper and is therefore made FINAL.

2. Claims 6-8 and 14-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species.

3. The drawings are objected to because they contain foreign language. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from

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the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-5 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-5 recites a method of computing values in a time domain of a stream of values in a frequency domain. In order for such a computation method to be statutory, the claims must includes either a step that results in a physical transformation outside the computer or a limitation to a practical application, or requires a specific computer to implementing the claimed process. However, it is clear from claims 1-5 that the claim smerely recite steps of data manipulation and computation. The input are numbers and output are numbers which are not a result of a physical transformation. The claim fails to recite any step that results a limitation to a practical application, or requires a specific computer to implementing the claimed process. The recitation "a filter method for use in decoding a digital signal" mentioned merely in the preamble

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is clearly an intended field of use, and thus fails to render the invention statutory. Accordingly, claims 1-5 are clearly directed to a non-statutory subject matter.

4. Claims 1-5 and 9-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, the recitation "the former stage", line 16, lacks a proper antecedent basis. Claim 9 also has the same problem.

As per claim 3, the recitation "switched", line 3, is indefinite as to what is being switched and what is switched to. Further, the recitation "the side information", line 4, lacks a proper antecedent basis. Claim 11 also has the same problem.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,5,9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission of prior art disclosed in figure 12 in view of Liu et al. (6,119,080)

As per claims 1 and 9, the admitted prior art in figure 12 discloses a method for use in decoding a digital signal from a frequency domain to a time domain, including a first step of multiplying an input data stream (X) by an inverse MDCT matrix (IMDCT) to acquire an output

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data stream (D3), a second step of storing predetermining data in each block of output data stream into a storage (262a), and a third step of generating the digital signal (D4) in the time domain on the basis of each data block acquired at the first step and the predetermined stored at the second step as claimed. It is noted that the admitted prior art does not decompose inverse MDCT matrix into a sparse matrix. However, Liu et al disclose an implementation of an inverse MDCT by decomposing MDCT matrix into sparse matrices (corresponding to Sub-DCT stage and combination stage, see figures 4 and 5). Thus, it would have been obvious to a person of ordinary skill in the art to implement the inverse MDCT in the admitted prior art in figure 12 by decomposing MDCT matrix into sparse matrices as taught by Liu et al because it has good features in regularity and complexity in architecture and reduces the computation.

As per claims 5 and 13, Liu et al. also disclose DCT-IV transformation matrix (col. 4, eq. (3), and figure 5).

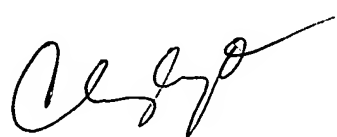
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D. Ngo whose telephone number is (571) 272-3731. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong D Ngo
Primary Examiner
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05/23/20051